

LISTING OF CLAIMS

Claims:

1. (Cancelled)
2. (Currently Amended) The method of claim ~~[[1]]~~ 90 wherein the magnetic field imaging modality comprises a magnetic resonance imaging modality.
3. (Currently Amended) The method of claim ~~[[1]]~~ 90 wherein the marker does not cause substantial spectral distortion under MRS.
- 4-6. (Cancelled)
7. (Currently Amended) The method of claim 90 wherein the X-ray imaging modality comprises fluoroscopy or mammography.
8. (Cancelled)
9. (Currently Amended) The method of claim ~~[[1]]~~ 90 wherein the marker is detectable in ~~and compatible with~~ images formed by at least 3 imaging modalities.
10. (Currently Amended) The method of claim 9 wherein one of the imaging modalities comprises an ultrasound imaging modality ~~and one comprises a radiation imaging modality.~~
- 11-13. (Cancelled)
14. (Currently Amended) The method of claim ~~[[1]]~~ 90 ~~wherein~~ further comprising treating the anatomical site ~~comprises monitoring the anatomical site~~ using information obtained from the ~~at least one~~ images.

15. (Currently Amended) The method of claim [[1]] 14 wherein treating the anatomical site comprises mapping the anatomical site using information obtained from the at least one image.

16. (Currently Amended) The method of claim [[1]] 14 wherein treating the anatomical site comprises performing radiation therapy, drug therapy or surgery at the anatomical site.

17. (Currently Amended) The method of claim [[1]] 14 where treating the anatomical site comprises performing a tissue removal or biopsy procedure.

18. (Currently Amended) The method of claim [[1]] 14 wherein treating the anatomical site comprises evaluating the anatomical site after performing a medical procedure on the anatomical site.

19. (Currently Amended) The method of claim [[1]] 90 wherein the marker is implanted at the anatomical site before, after or during a tissue removal or biopsy procedure.

20. (Currently Amended) The method of claim [[1]] 90 wherein the implanting step comprises guiding the marker to the anatomical site by forming using at least one of the first and second images using an ultrasound, radiation or magnetic field imaging modality.

21-24. (Cancelled)

25. (Currently Amended) The method of claim [[23]] 90 wherein the second image is formed before, during or after treating the anatomical site.

26. (Currently Amended) The method of claim [[1]] 90 further comprising the step of obtaining information obtained from the at least one image comprises diagnostic information,

positional information, or condition information about the anatomical site from the first or second image.

27-32. (Cancelled)

33. (Currently Amended) ~~A method for mapping a portion of a body by multi-modality fusion comprising:~~

~~——— implanting at least one permanent marker comprising a solid material at the anatomical site, the solid material being detectable by and compatible with images formed by at least two imaging modalities, wherein one of the imaging modalities comprises a magnetic field imaging modality and one of the imaging modalities comprises a non-magnetic field imaging modality; ———~~

~~——— forming a first image, in which the marker is distinguishable from the anatomical site, using a first imaging modality;~~

~~——— forming a second image, in which the marker is distinguishable from the anatomical site using a second imaging modality, wherein one of the first and second imaging modalities is a magnetic field imaging modality; and~~

The method of claim 90 further comprising the step of synthesizing the first and second images to obtain positional information for a portion of the anatomical site body.

34. (Original) The method of claim 33 wherein the synthesizing step comprises synthesizing the first and second images using a computer system.

35. (Currently Amended) ~~A method of positioning a body for radiation therapy comprising:~~

~~selecting an anatomical site upon which radiation therapy is to be performed;~~

~~——— implanting at least one permanent marker comprising a solid material at the anatomical site, the solid material being detectable by and compatible with at least two imaging modalities, wherein one of the imaging modalities comprises a magnetic field~~

~~imaging modality and one of the imaging modalities comprises a non-magnetic field imaging modality;~~

~~—forming at least one image of the anatomical site, in which the marker is distinguishable from the anatomical site, to obtain information about the anatomical site; and~~

The method of claim 90 further comprising the step of positioning the body for radiation therapy based on information provided by the first or second at least one images.

36. (Currently Amended) The method of claim 35 further comprising:

~~—forming at least two images of the anatomical site to obtain information about the anatomical site, wherein one of the images is formed by a magnetic field imaging modality and one of the images is formed by a non-magnetic field imaging modality; and~~

comparing information provided by the at least two first and second images prior to performing radiation therapy.

37. (Currently Amended) The method of claim 36 wherein the comparing step comprises detecting positional differences between the ~~at least two~~ first and second images.

38. (Original) The method of claim 36 comprising affecting the position of the patient based on the positional differences between the images.

39. (Currently Amended) The method of claim 35 further comprising pre-positioning the body for radiation therapy prior to forming the ~~at least one~~ first image.

40. (Cancelled)

41. (Original) The method of claim 35 further comprising performing radiation therapy on the anatomical site.

42. (Currently Amended) ~~A method of identifying a lesion site of a breast for treatment comprising:~~

~~——— implanting at least one permanent marker comprising a solid material at the lesion site, the solid material being detectable by and compatible with at least two imaging modalities, wherein one of the imaging modalities comprises a magnetic field imaging modality and one of the imaging modalities comprises a non-magnetic field imaging modality;~~

~~——— forming at least one image of the lesion site, in which the marker is distinguishable from the lesion site, to obtain information about the lesion site; and~~

The method of claim 90 wherein the anatomical site is a lesion site and further comprising the step of treating the lesion site using information obtained from the first and second images.

43. (Original) The method of claim 42 wherein treating the lesion comprises monitoring the lesion.

44. (Original) The method of claim 42 wherein treating the lesion comprises removing the lesion from the breast.

45. (Original) The method of claim 42 wherein at least one image of the lesion site is formed by an MR mammography imaging modality.

46-60. (Cancelled)

61. (Currently Amended) The marker of claim ~~[[60]]~~ 82 wherein the ~~biocompatible~~ coating ~~comprises~~ is a carbon coating or a carbon resin coating.

62. (Currently Amended) The marker of claim 61 wherein the carbon coating ~~comprises~~ is pyrolytic carbon, vitreous carbon or graphite.

63-81. (Cancelled)

82. (Currently Amended) A tissue marker consisting of a single zirconium oxide substrate and a coating, wherein the marker ~~is sized and shaped to be~~ has an elongate shape and a length of between about 800 and about 3500 microns such that it is distinguishable from features of an anatomical site in X-ray images formed of the anatomical site.

83. (Previously Presented) The tissue marker of claim 82 wherein the coating is a carbon coating.

84. (New) The tissue marker of claim 82 wherein the marker has a length of between about 1000 and about 3000 microns.

85. (New) The tissue marker of claim 82 wherein the marker has a dog bone shape.

86. (New) The tissue marker of claim 82 wherein the marker has a bar bell shape.

87. (New) The tissue marker of claim 82 wherein the marker has a tubular shape.

88. (New) The tissue marker of claim 82 wherein the marker has helix shape.

89. (New) A tissue marker consisting of a single zirconium oxide body wherein the body has an elongate shape and a length of between about 800 and about 3500 microns such that it is distinguishable from features of an anatomical site in X-ray images formed of the anatomical site.

90. (New) A method of identifying an anatomical site for treatment comprising:
implanting at the anatomical site only a tissue marker consisting of a single zirconium oxide substrate and a carbon coating;
forming at least a first image of the anatomical site using an X-ray imaging modality, in which the marker is detectable and distinguishable from features of the anatomical site;
and
forming at least a second image of the anatomical site using a magnetic field imaging modality in which the marker is detectable without substantial image distortion.
91. (New) A method of identifying an anatomical site for treatment comprising:
implanting at the anatomical site only a tissue marker consisting of a single zirconium oxide body;
forming at least a first image of the anatomical site using an X-ray imaging modality, in which the marker is detectable and distinguishable from features of the anatomical site;
and
forming at least a second image of the anatomical site using a magnetic field imaging modality in which the marker is detectable without substantial image distortion.